

## Installation Instructions

## OmniProx™ Reader Model Series OP10/20/30/40/45/90

K5336 Rev. 9, 11-Sep-2003

### WHAT IS THE Honeywell OmniProx™ READER?

The OmniProx Reader is an RFID proximity card reader to be installed for use with access control systems.

These installation instructions contain the following information:

- Mounting Instructions
- Connecting the reader to the host
- Testing and operation of the reader



Visit [www.omniprox.com](http://www.omniprox.com) for the latest information and technical support.

### HOW TO MOUNT THE READER

Figure 1 shows the front view of the OmniProx. When mounting models OP10/20/30/40/45, the snap-off cover must be removed to access the screw holes.



Figure 1

**SNAP ON/OFF TOP COVERS:**  
Hides mounting screws and protects the reader

The model OP90 uses a security screw on the bottom of the reader to secure the cover. Remove this security screw using the supplied tool. Then slide the back plate down slightly and then lift it up from the bottom. Select the desired mounting holes and drill them out.



Mount the reader with the appropriate screws (not supplied) as indicated on the template.

### To surface mount the reader, perform the following:

1. Determine an appropriate mounting position for the reader.
2. Peel off the back of the self-stick mounting label template included with the unit and place at the desired mounting position. (Additional templates can be downloaded from [www.omniprox.com](http://www.omniprox.com).)
3. Using the template as a guide, drill two holes (hole size is indicated on mounting template) for mounting the reader to the surface.
4. Drill a 1/2" (13 mm) hole for the cable. If mounting on metal, place a grommet or electrical tape around the edge of the hole.
5. Route the interface cable from the reader and/or power supply to the host. **A linear type power supply is recommended.**



Check all electrical codes for proper installation.



Card Reader Models OP10/20/30/40/45/90 are to be used with control panels whose power supply is UL listed Class 2 or equivalent.

### HOW TO CONNECT THE READER TO THE HOST

The OmniProx Reader is supplied with an 18-inch pigtail, having a 6-conductor cable. To connect the reader to the host, perform the following steps:

1. If there is a connector on the end of the cable (used during manufacture for testing purposes), cut it off. Prepare both the reader cable and host cables by cutting the cable jacket back 1/4 inches and strip the wires 1/2 inch.
2. Splice the reader pigtail wires to the corresponding host wires and cover each connection (see Figure 2).
3. If the tamper output is being utilized, connect the purple wire to the correct input on the host.
4. Trim and cover all conductors that are not used.

Figure 2 below shows how you should wire the reader to the host.

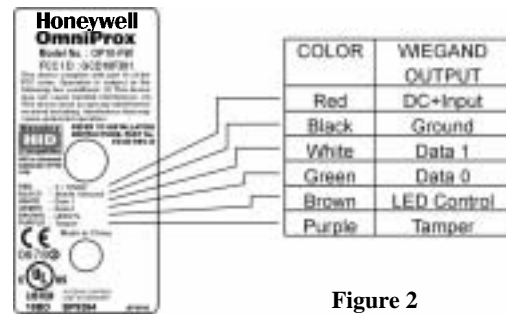


Figure 2



### Wiring Notes:

1. The individual wires coming out of the reader are color coded according to the recommended Wiegand standard.
2. If either 5 or 12 volts are available, use 12 volts for better performance.
3. When using a separate power supply for the reader, the power supply and host must have a common ground.
4. The recommended cable depends on the distance from the reader to the host. See Table 1 on the next page for the correct wire gauge based upon distance. Larger wire gauges are acceptable. The wire must be stranded with an overall shield, either foil or braided. If the tamper is not being used, 5 conductor cable is required; otherwise 6 conductor cable is required.
5. The cable shield wire on the reader should be attached to an Earth ground (best) or signal ground connection at the panel or power supply end of the cable. This configuration is best for shielding the reader cable from external interference.

**TABLE 1: WIRE GAGE SPECIFICATIONS**

Distance	Gage	5 Conductor	6 Conductor
≤ 200 ft. (61m)	22	Alpha 1295C	Alpha 1296C
≤300 ft. (91m)	20	Alpha 58126	Alpha 58126
≤ 500 ft. (153 m)	18	Alpha 58136	Alpha 58136

Note: Recommended cable is only a guideline, use any manufacturer that meets the gage and shield specifications.

**HOW TO TEST AND OPERATE THE READER**

The reader should be tested after wiring it to a power supply and the host. Do this by performing the following steps:

1. Power up the reader. The LED and beeper will activate three times. This indicates that the reader is working properly.
2. Present the appropriate type of ID card to the reader. (See Table 2 for the correct card type based on the reader model.) The LED will momentarily flash green and a short beep will be emitted. This indicates that the card was read properly by OmniProx.
3. After the card data is processed by the host, the host can then turn the LED green or yellow. Refer to the host description of the LED operation if the reader LED is controlled by the host.

**Table 2: Model Number vs. Feature Matrix**

Model Number	UL Listing Part #	Card Type	Output Format	Read Range (Max.)*
OP10-FW	AY-K10	HID	Wiegand	3"
OP20-FW	AY-J10	HID	Wiegand	4"
OP30-FW	AY-L10	HID	Wiegand	5"
OP40-FW	AY-H10	HID	Wiegand	4"
OP45-FW	AY-M10	HID	Wiegand	4"
OP90-FW	AY-Q10	HID	Wiegand	1.5"

\*Measured using HID Corp. Prox Card II (P/N 1326LSSMV) or equivalent and the corresponding OmniProx reader powered at 12 volts. Range also depends on electrical environment and/or proximity to metal.

**SPECIFICATIONS**

**Electrical Characteristics:**

**Power Supply Type:**

Linear type Recommended

**Operating Voltage Range:**

5.0 – 16 VDC (Operational down to 4.25 VDC)

**Maximum input current:**

*OP10, OP20, OP90*

Standby: 35 mA

Read: 50 mA

*OP30, OP40, OP45*

Standby: 35 mA

Read: 100 mA

**Tamper Output**

Open collector, active low, max.sink current is 16 mA

**Maximum Cable Distance to Host:**

500 ft. (150 meters)

**Card Read Distance:**

See Table 2

**Regulatory Approvals:**

USA: UL 294 Listed & FCC Part 15 B  
*(Model OP90 is not yet UL listed)*

Europe: CE Listed

**Operating Temperature Range:**

-25° F to 145° F (-31°C to 63°C)

**Operating Humidity:**

0 to 95% (non condensing)

Suitable for outdoor use

**Dimensions:**

**OP10:**

3.15" (80mm) L x 1.58" (40mm) W x 0.50" (12.8mm) D

**OP20:**

4.73" (120mm) L x 1.65" (42mm) W x 0.55" (14mm) D

**OP30:**

5.71" (145mm) L x 1.69" (43mm) W x 0.79" (20mm) D

**OP40:**

4.33" (110mm) L x 2.96" (75mm) W x 0.59" (15mm) D

**OP45:**

3.5" (89mm) L x 3.5" (89mm) W x 0.59" (15mm) D

**OP90:**

4.72" (120mm) L x 3" (76mm) W x 1" (27mm) D

For additional information on the Wiegand™ Protocol, see "Access Control Standard – Wiegand Card Reader Interface SIA AC-01 (1996.10)" which can be purchased from SIA (see [www.siaonline.org](http://www.siaonline.org))



OmniProx models with HID compatibility are capable of reading genuine HID cards under the terms of a license agreement between HID Corp. and the ADEMCO Group.

## FEDERAL COMMUNICATIONS COMMISSION (FCC) Part 15 STATEMENT

This equipment has been tested to FCC requirements and has been found acceptable for use. The FCC requires the following statement for your information:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- If using an indoor antenna, have a quality outdoor antenna installed.
- Reorient the receiving antenna until interference is reduced or eliminated.
- Move the radio or television receiver away from the receiver/control.
- Move the antenna leads away from any wire runs to the receiver/control.
- Plug the receiver/control into a different outlet so that it and the radio or television receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user or master may find the following booklet prepared by the Federal Communications Commission helpful:

"Interference Handbook"

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

*The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User's Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.*

## CE CERTIFICATION

### DECLARATION OF CONFORMITY TO COUNCIL DIRECTIVE 89/336/EEC

Standards to which conformity is declared:

ETS 300 683, ETS 300 330 harmonized standard, low power emitters

EN 50130-4:1998 Product family standard: Immunity requirements for components of fire, intruder and social alarm systems

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Model numbers OP10, OP20, OP30, OP40, OP45, and OP90



File No.  
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## Acknowledgements:

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